Sources of Financing and the Level of Health Spending for Native Americans

THE HENRY J. KAISER FAMILY FOUNDATION

SOURCES OF FINANCING AND THE LEVEL OF HEALTH SPENDING FOR NATIVE AMERICANS

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October 1999

The Henry J. Kaiser Family Foundation

The Henry J. Kaiser Family Foundation, based in Menlo Park, California, is an independent national health care philanthropy and not associated with Kaiser Permanente or Kaiser Industries. The Foundation's work is focused on four main areas: health policy, reproductive health, HIV/AIDS policy in the United States, and health and development in South Africa. This study was conducted as part of the Native American Health Policy Project.

This paper, "*Sources of Financing and the Level of Health Spending for Native Americans*", is one of a two-part report on *"Informing Discussions about Federal Funding for Indian Health Care"* and is being released as part of a series of papers on Native American health issues commissioned by the Henry J. Kaiser Family Foundation. Papers in this series will address issues of welfare reform, Indian tribal health systems' governance and development, Medicaid managed care and health insurance coverage.

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CHAPTER 1: INTRODUCTION

The Indian Health Service (IHS) provides health care to American Indians and Alaska Natives who are members of federally-recognized tribes through health facilities located on or near Indian reservations. The IHS was established in 1955 to provide health care to American Indians and Alaska Natives. Current funding is authorized under the Indian Health Care Improvement Act (P.L. 94-437). This Act is to be considered for reauthorization in the FY2000 budget. A major concern for considering the level of funding to be provided to the IHS in future years is ensuring that resources are available to address the health care needs of the eligible American Indian and Alaska Native population. Health status information suggests that this population may face barriers to access and use of necessary health services. Infant mortality rates among Native Americans are significantly higher than for the U.S. population overall and average life expectancy is significantly lower. The American Indian and Alaska Native population also has much higher rates of mortality associated with diabetes mellitus, alcoholism, and tuberculosis than is observed in the overall U.S. population.[1]

American Indians and Alaska Natives may receive services at IHS facilities if they live in geographic areas where facilities are located. Additional funding for services provided at IHS facilities or provided by non-IHS providers are available through Medicare, Medicaid, State Children's Health Insurance Programs, and the Department of Veterans Affairs for those American Indians and Alaska Natives who are eligible for these programs. In addition, some American Indians and Alaska Natives have employment-based or other private health insurance coverage. The IHS estimates that approximately 1.3 million American Indians and Alaska Natives used IHS services in the three years ending in 1997; however, the total American Indian and Alaska Native population is approximately 2.4 million. Those who are eligible for IHS services but do not use them may not live close to IHS facilities and/or may have alternative health insurance coverage.

Although there is information on IHS provision of services, users, and funding, a more complete profile of health spending and sources of payment for services provided to American Indians and

Alaska Natives is important to understanding the extent to which this population faces financial and other barriers to necessary health services. The purposes of this study include:

- To assess whether funding for the IHS has kept pace with inflation and growth in the American Indian and Alaska Native population over the past decade;
- To develop estimates of sources of health insurance coverage for the U.S. population and for American Indians and Alaska Natives, in 1998; and
- To develop baseline per capita estimates of health spending for American Indians and Alaska Natives, by source of payment and overall in 1998.

These estimates were derived from a number of data sources, including the Survey of American Indians and Alaska Natives (SAIAN), the National Medical Expenditure Survey (NMES), the Current Population Survey (CPS), the Health Care Financing Administration's (HCFA) National Health Expenditure (NHE) estimates, and the IHS. Analysis of 1998 IHS funding relative to the level of funding that would exist had funding kept pace with inflation and population growth since 1987 are presented in the next section of this report. Then we present baseline estimates of sources of insurance coverage and of per capita spending in 1998. The methodology developed and applied to obtain these baseline estimates is described in detail in the Appendix to the report.

It should be understood that, unless otherwise noted, the estimates presented in this report are intended to be reflective of the total American Indian and Alaska Native population and not the core IHS user community. The core HIS user community is estimated to be smaller than the total American Indian and Alaska Native population by approximately one million individuals. In addition, the user community is more heavily dependent upon the IHS for health services. As such, it would be incorrect to interpret the statistics in this document as depicting the expenditure profiles of the IHS user community.

Finally, it should also be noted that the expenditure estimates presented in this report are reflective of current levels of use and should not be interpreted as indicative of current levels of need. Barriers to access and use of necessary medical care, be they due to financial, geographic, or other reasons, are embodied in these expenditure estimates.

CHAPTER 2: ANALYSIS OF IHS FUNDING IN 1987 AND 1998

As a starting point for this analysis, we examined whether IHS funding has increased sufficiently to account for medical cost inflation and growth in the Native American population relative to the U.S. population. It should be noted that this analysis did not examine whether IHS funding in 1987 was adequate, but rather whether funding increased sufficiently to cover the rate of medical cost inflation. Budgetary and population data provided by the IHS, National Health Expenditure data provided by the Health Care Financing Administration, and Census population estimates were used to perform this initial analysis.[2]

In terms of the total American Indian and Alaska Native population, IHS funding, per capita, was $408.81 in 1987. Per capita funding increased to $735.75 by 1998. However, if the level of IHS funding had kept pace with the rate of inflation between 1987 and 1998, the per capita level of funding would have been $817.02 – or 11 percent higher than the actual level of funding in 1998. In terms of the IHS eligible population, the 1998 per-capita level of funding would have been $1,406.22 – or 18.6 percent higher than the actual level of funding (See Table 1).

This decline in per capita funding for the IHS could suggest that there has been a decline in access to and utilization of health services by this population over the 1987 to 1998 period. On the other hand, it is possible that the decline in funding for the IHS may be offset by increased funding for health services for American Indians and Alaska Natives from other sources, such as Medicaid, Medicare, or private insurance coverage. If so, then the decline in funding for the IHS may have had little effect on total spending on health services for American Indians and Alaska Natives. In the next section, we examine this question by comparing per capita spending of American Indians and Alaska Natives with spending for the U.S. population by specific sources of health care financing.

Table 1. Differences between FY1998 IHS per-capita personal health care service funding and the level of funding required to compensate for inflation since 1987

Population	Actual FY1987 per-capita IHS funding	Actual FY1998 per-capita IHS funding	Percent increase FY1987 to FY1998	Estimated FY1998 IHS funding necessary to keep pace with 1997-1998 inflation	Percentage difference in FY1998 estimated and FY1998 actual funding
American Indians and Alaska Natives	**$408.81**	**$735.75**	**80.0%**	**$817.02**	**11.1%**
IHS Eligible	**$703.62**	**$1,186.11**	**66.0%**	**$1,406.22**	**18.6%**

Source: Barents Group LLC analysis of IHS, CPS, and HCFA NHE data

Note: These statistics reflect personal health care funding, which accounts for approximately 80 percent to 85 percent of the total IHS budget.

CHAPTER 3: BASELINE ESTIMATES

The 1998 baseline estimates of sources of health insurance coverage for American Indians and Alaska Natives and the U.S. population as a whole are reported in Table 2. These estimates indicate that the distribution of health insurance coverage for American Indians and Alaska Natives differs from that of the U.S. population. For example, the proportion of American Indians and Alaska Natives receiving Medicaid is about twice that of the U.S. population. Further, a larger proportion of American Indian and Alaska Natives is either uninsured or relying solely on the IHS for health services (about 37.1 percent versus 16.3 percent for the U.S. population).[3]

Per-capita estimates of total personal health expenditures by sources of payment are presented in Table 3.[4] These estimates indicate that overall per-person expenditures for American Indians and Alaska Natives are about 42 percent lower than expenditures for the general U.S. population. Thus, there is no evidence that the decline in IHS spending has been offset by other sources of funding. The IHS constitutes the largest source of payment for American Indian and Alaska Native health services (35 percent). It should be noted, however, that the IHS share of per-capita spending is reported for all American Indians and Alaska Natives, which encompasses a larger population than the actual IHS core user population. The core user population is most likely more heavily reliant on the IHS (and less so on other sources of coverage) than the total American Indian and Alaska Native population. As such, the estimates reported here are not be reflective of the IHS share of spending for this core IHS user population.

Table 2. Estimated Sources of Health Insurance Coverage for the United States and American Indians and Alaska Natives, 1998*

Population	Health Insurance Coverage							
	Employer-Based	Other Private	Medicare	Medicaid	Other Public Programs	Other	Uninsured & IHS Only	Total
	(thousands of people)							
Total United States	162,988.5	25,543.5	35,590.3	28,956.4	9,975.3	1,141.7	43,894.3	269,093.7
American Indians and Alaska Natives	1,105.3	101.7	209.3	461.7	120.6	16.8	872.1	2,353.2
	(percent of total)							
Total United States	60.6%	9.5%	13.2%	10.8%	3.7%	0.4%	16.3%	
American Indians and Alaska Natives	47.0%	4.3%	8.9%	19.6%	5.1%	0.7%	37.1%	

Source: Barents Group analysis of the March 1998 CPS.

Note: Rows will not sum to totals due to multiple sources of insurance coverage.

*The estimates in this table are reflective of all American Indians and Alaska Natives. They should not be interpreted as representing solely the core IHS user community.

Table 3. Estimated Per-Capita Personal Health Care Expenditures for the United States Population and American Indians and Alaska Natives, by Source of Payment, 1998*

Population	Source of Payment							
	Out-Of-Pocket	Private Insurance	Medicare	Medicaid	Other Public Programs	Other	Indian Health Service (IHS)	Total
	(dollars)							
Total United States	**$626.34**	**$1,342.22**	**$746.42**	**$564.88**	**$227.78**	**$104.95**	**$6.43**	**$3,619.04**
American Indians and Alaska Natives	**$204.60**	**$587.68**	**$66.87**	**$318.56**	**$76.62**	**$106.74**	**735.75****	**$2,096.81**
	(percent of total)							
Total United States	**17.3%**	**37.1%**	**20.6%**	**15.6%**	**6.3%**	**2.9%**	**0.2%**	**100.0%**
American Indians and Alaska Natives	**9.8%**	**28.0%**	**3.2%**	**15.2%**	**3.7%**	**5.1%**	**35.1%**	**100.0%**

Source: Barents Group analysis of the March 1998 CPS, the 1987 SAIAN, the 1987 NMES, the 1998 NMES Projection File, HCFA 1998 National Health Expenditure Projections, HCFA Form 2082 data.

*The estimates in this table are reflective of all American Indians and Alaska Natives. They should not be interpreted as representing solely the core IHS user community.

**This estimate is for all American Indians and Alaska Natives and does not reflect IHS per capita expenditures for the core IHS user community.

CHAPTER 4: CAVEATS TO THE FINDINGS

The baseline estimates reported in this section are based on assumptions about a number of issues for which complete information was not available. First, the data sources we relied on to generate these estimates do not capture the full set of potential health care users and expenditures. Specifically, these data do not include expenditures for individuals in institutional settings, such as skilled nursing facilities and other long term care facilities. Second, individuals in the military, U.S. territories, and living abroad were not reported. Because of these exclusions, the total health expenditure estimates upon which our analysis was based are approximately 20 percent lower than estimates obtained from other sources, with about one half of this difference due to long-term care expenditures.[5] As described in the Appendix, we adjusted our initial baseline estimates to account for these expenditures. Even so, because of our reliance on survey data, it is possible that our spending estimates may differ from those obtained from other sources.

Third, there is uncertainty about the size of the potential and actual IHS user populations. The general eligibility criteria for IHS services is very broad, consisting of all "persons of Indian descent belonging to the Indian community serviced by the local facilities and program" (OTA 1986). The IHS, however, defines the eligible population more narrowly as those Native Americans residing on reservations or in adjacent counties. Further, the IHS defines the user community as those American Indians and Alaska Natives receiving IHS services within the last three years. Based on these definitions, the IHS eligible and user populations are estimated to be approximately 1.5 million and 1.3 million, respectively.

Out of concern about uncertainty in accurately enumerating the IHS eligible and user populations, we decided to report IHS expenditures at the level of the entire American Indian and Alaska Native population, which includes both the user and non-user communities. As such, our estimates should not be interpreted as indicative of the IHS proportion of spending for the IHS user population.

Because of these concerns, the estimates contained in this report should be regarded as a first approximation of expenditures for American Indians and Alaska Natives and the distribution of expenditures by source of payment. More extensive data collection and analysis to fill in the gaps that have been identified in this study would be necessary to refine these estimates in the future.

APPENDIX A: DATA AND METHODOLOGY

In order to obtain baseline estimates of health expenditures by American Indians and Alaska Natives we primarily relied on information contained in the following four data files:

1. **1987 National Medical Expenditure Survey (NMES87)**. This is a nationally representative survey of over 38,000 non-institutionalized individuals that contains detailed information on health insurance coverage, health status, socioeconomic/demographic characteristics, and health service use and expenditures. A limitation of this file is that it does not contain health expenditure data for long-term care and other specialized hospital/treatment facilities.

2. **1987 Survey of American Indians and Alaska Natives (SAIAN)**. The SAIAN survey used the same survey instruments and data collection procedures as the NMES87. Survey participants consisted of American Indians and Alaska Natives who were eligible for services provided or paid for by the IHS.

3. **1998 National Medical Expenditure Survey Projection File (NMES98P)**. This is one of a series of projection files developed from the NMES87. These projections were developed by adjusting person level weights and aging expenditure data to be consistent with national expenditure estimates and projections developed by the Health Care Financing Administration (HCFA) and the Congressional Budget Office.

4. **March 1998 Current Population Survey (CPS)**. This is a nationally representative survey of 131,000 individuals that provides detailed information on sources of health insurance coverage, employment, income, and socio-demographic characteristics.

In addition, we utilized the following sources to validate and refine our estimates:

- Tabulations from HCFA's 1997 National Health Accounts;

- Information from the literature on health expenditures for Native Americans;
- Tabulations on state level Medicaid expenditures by race from HCFA's Form 2082 data;
- Information provided by the Indian Health Service (IHS); and
- Information obtained through a series of discussions with IHS officials and tribal representatives.

The overall approach we used to obtain our estimates consisted of four steps:

1. Calculate health service expenditures for American Indians and Alaska Natives relative to the U.S. population from the NMES87 and SAIAN files for 1987.
2. Inflate these expenditures to 1998 based on the NMES98P file.
3. Adjust the 1998 expenditure estimates to reflect sources of insurance coverage for American Indians and Alaska Natives as reported on the CPS file.
4. Adjust estimates to account for health expenditures not contained in the survey files.

The details of this approach are presented in the following sections.

ESTIMATION OF 1987 BASELINE EXPENDITURES

Expenditures for American Indians and Alaska Natives

The SAIAN file was the primary data source for these estimates. In analyzing the SAIAN data we constrained our sample to those individuals who were reported eligible to receive IHS services for the entire year that the survey covered. This assumption reduced the sample from approximately 7,500 to 6,450 individuals. This file contains detailed information on services received by American Indians and Alaska Natives for nine different types of medical services (e.g., inpatient hospital, physician visits, dental services, etc.). The approach we used was to aggregate these service categories to obtain estimates of total expenditures by source of payment (e.g., private, Medicare, Medicaid, etc.). As discussed below, we relied on IHS budgetary data to obtain the 1998 baseline estimates reported in Table 3.

Total expenditures were aggregated across individuals by source of insurance coverage and source of payment. Finally, weighted average per capita expenditures were calculated ($PERCAP_{sij}$, where s = SAIAN, i = source of coverage, and j = source of payment).
The source of insurance coverage was determined based on the last round of survey data in which coverage status was reported.[6] This was done to be consistent with the approach used for determining insurance coverage in the NMESP98 data file.

Expenditures for the U.S. Population

The NMES87 was the primary data source for these estimates. As with the SAIAN file, expenditures were aggregated across categories of services and sources of insurance coverage. Weighted average per capita expenditure estimates were then calculated from these aggregate data ($PERCAP_{nij}$, where n = NMES87, i = source of coverage, and j = source of payment). Further, the same approach as with the SAIAN data was used for assigning insurance coverage status.

Relative Expenditures

Expenditures of Native Americans relative to the U.S. population were calculated by dividing the SAIAN per capita estimates by the NMES87 per capita estimates (i.e., $REL_{ij} = PERCAP_{sij}/PERCAP_{nij}$).

ESTIMATION OF 1998 EXPENDITURES

To generate estimates for 1998, several steps were required--the 1987 estimates had to be inflated to 1998 values, expenditures for American Indians and Alaska Natives not residing in Reservation States had to be generated, and additional adjustments were needed. These adjustments were required to account for changes in the sources of insurance coverage for American Indians and Alaska Natives between 1987 and 1998, and to account for expenditure categories not captured in the SAIAN, NMES87, and NMES98P files.

IHS FY98 appropriations were used to calculate per-capita spending estimates for IHS provided services. In addition, per-capita expenditures for Medicaid were based on HCFA Form 2082 data for FY 1997, adjusted to 1998. For all other sources of payment, unadjusted 1998 expenditure estimates for Reservation State residents were calculated in two steps. In the first step, expenditure data in the NMESP98 file were aggregated according to source of payment and source of coverage and per capita estimates ($PERCAP_{pij}$) were obtained the same as for the 1987 SAIAN and NMES files. In the second step, base 1998 expenditure estimates were obtained by multiplying the relative SAIAN to NMES87 per capita expenditures (REL_{ij}) by the NMESP98 per capita expenditure estimates ($PERCAP_{pij}$).

As discussed below, these unadjusted estimates were then adjusted to account for differences in insurance coverage for American Indians and Alaska Natives between 1987 and 1998.

Expenditure Estimates for Other American Indians and Alaska Natives

As noted, the SAIAN survey includes only those American Indians and Alaska Natives who were eligible for IHS services in 1987. Unfortunately, similar survey data for other American Indians and Alaska Natives are not available.[7] Based on a series of discussions with the IHS and tribal representatives, we concluded that it was reasonable to assume that members of this group would exhibit the same expenditure patterns as the general U.S. population with similar characteristics. Therefore, for American Indian and Alaska Natives assumed not eligible for IHS services, estimates were obtained by statistically matching per capita values in the NMESP98 to this sub-population. The factors used to perform this match included age, income relative to poverty level, and source of insurance coverage.

Adjustments for Changes in Insurance Coverage

Between 1987 and 1998 there could have been considerable change in the distribution of insurance coverage for American Indians and Alaska Natives. Because coverage status has a

potentially considerable effect on expenditures, it was important that any changes in the distribution of coverage across sources be accounted for.

To account for these changes, we used tabulations on source of insurance coverage for American Indians and Alaska Natives from the 1998 CPS to develop new population weights. These weights were then applied to the estimated 1998 American Indian and Alaska Native per-capita expenditures to calculate the source of payer per capita estimates.

Additional Adjustments

As noted above, our primary data sources for expenditures did not include information for certain populations and types of expenditures. Specifically, these files were absent information on long-term care expenditures. In order to obtain baseline estimates of total personal health expenditures it was necessary to adjust our preliminary baseline to account for these missing expenditures. In aggregate, the survey-based U.S. population per-capita expenditure estimates were about 20 percent less than estimates reported in HCFA's National Health Expenditures. Long-term care accounted for about 8.5 percentage points of this difference and other, unspecified, services accounted for the other 11.5 percentage points.

Estimates of per capita expenditures for nursing homes by source of payer were obtained from HCFA's National Health Expenditure tabulations. These estimates were added to the U.S. baseline population.

Determining the relative use of long-term care by American Indians and Alaska Natives was less straightforward. We were unable to obtain direct estimates of long-term care use by this population. The available information, however, indicates that American Indians and Alaska Natives receive very few long-term care services. The IHS does not provide or cover long term care stays. In addition, there are relatively few tribal-based long-term care facilities (John and Baldridge 1996).

The approach we employed consisted of two steps. In the first step, U.S. per-capita estimates of long term care by source of payer were adjusted by relative American Indian and Alaska Native

to U.S. population per-capita expenditures, by source of payer, except IHS and Medicaid. In the second step, these estimates were adjusted by the relative proportion of American Indians and Alaska Natives 65 years of age or older, compared to the proportion for the U.S.. population, for all payment sources except Medicare. This adjustment was done to account for the fact that almost all long- term care expenditures are provided to the elderly. For example, estimates based on 1987 data indicated that on a per-capita basis, expenditures by the elderly for nursing home services were 28 times greater than expenditures by the non-elderly (Friedland 1990). As such, it was important to account for differences in the relative size of the elderly populations between native Americans and the U.S. population.

A second set of adjustments were then applied to account for additional expenditures not captured in the survey files. Unfortunately we did not have information about how these missing expenditures might vary across the U.S. and American Indian and Alaska Native populations or across sources of payment. Therefore, all expenditure estimates (i.e., all payment sources and population groups) were adjusted upwards by 11.5 percent to obtain U.S. baseline estimates that were consistent with those reported in HCFA's National Health Expenditure tabulations.

ESTIMATES OF INFLATION ADJUSTED 1998 IHS PER-CAPITA EXPENDITURES

Unlike the Medicare and Medicaid programs, funding for health services provided by the IHS is determined by an annual budget. As part of this study, we attempted to determine what per-capita expenditures would have been if the IHS budget increased with the rate of increase in medical expenditures. These calculations were based on using IHS budgetary data for 1987, and inflating these estimates to 1998 using National Health Expenditure personal health care estimates for 1987 and 1998.

Historically, between 15 percent and 20 percent of the IHS budget has not been allocated for personal health care services. For this analysis, we assumed that this share was 17.5 percent.

These calculations involved inflating IHS per-capita funding in 1987 to 1998 according to the NHE rate of growth in per-capita personal health expenditures between 1987 and 1998.

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Endnotes

1 For example, see Cunningham and Schur (1991), Cunningham and Cornelius (1995), OTA (1986), and IHS (1997).

[2] See the Appendix for a description of the methodology used to perform these calculations.

[3] Because it is not possible to accurately separate the IHS-only user population from the uninsured population these groups are reported as a combined estimate.

[4] Personal health expenditures do not include spending for health care research, construction, insurance plan administration, and other non-direct care activities.

[5] Specifically, the Health Care Financing Administration's National Health Expenditure Projections for 1998.

[6] The SAIAN file contained information from three survey rounds.

[7] Both the NMES87 and NMESP98 contain American Indian and Alaska Natives. Because of the small number of these individuals, however, we concluded that any resulting estimates would be unreliable. This would especially be true for disaggregating this group by source of coverage and payment.

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